

## THE ROLE OF QUALITY MANAGEMENT IN ROMANIAN INFANT'S VACCINATION DEBATE

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**Abstract:** *Lately, in Romanian health care system there are several issues and debates about the importance of vaccines at the infants. Because of some rumors from USA, about the risks of vaccines (there were unproved cases which claimed that the vaccines would have induce autism to children) for infants less than 12 months old, the whole Europe, and also Romania, opened a dispute around these vaccines.*

*In every healthcare system a key element is represented by quality. This means that everything in the interior of a hospital or clinic must have certain quality standards assured by the Healthcare Ministry, in order to provide the best quality for the patients.*

*In other words, the concept of quality can be seen as a characteristic or property that each health care system must have.*

*In our article we will focus on what attributes must have a qualitative healthcare system and how these attributes should influence the decision of infants' vaccination.*

**Keywords:** hospitals; quality management; patient; infant vaccination; decision tree.

**JEL classification:** I11; I15; I19.

### 1. Introduction to Romanian healthcare quality management

The term of "quality management" is relatively new for our country. While in European clinics and hospitals this term is well known and applied, in Romania the healthcare managers do not have a clear image on what exactly involves the concept of quality.

Still, our hospitals do have quality standards and over 90% of health care institutions are quality accredited according to ISO norms, but, unfortunately, healthcare managers do not organize specialized trainings for medical staff, in order for them to learn and apply the quality management principles.

In 1966 Avedis Donabedian first described his quality model, called the "Donabedian Model". The model is composed by 3 elements:

1. Structure - in this section we can see all the factors that could affect the context in which health care is delivered. Here we can include physical facilities, medical staff, medical equipment, payment methods etc. Usually, this step is easy to observe.

2. Process – represents the amount of all medical interventions (diagnose, treatment, etc)
3. Outcome – the effects that a national healthcare system provides for its patients (changes, human satisfaction, knowledge).

Among these 3 indicators, we can affirm that the last one, the outcome, could be seen as the most important quality indicator, due to the fact that the main objective of each healthcare system is to improve the patients' status.

Basically, a vaccination process should follow the Donabedian's model along with the main quality healthcare dimensions:

- Accessibility - the ease with which the patients can contact their generalist in order to vaccinate their infant;
- Specificity – the constant care of the generalist for the infant;
- Continuity – the possibility that an infant has to be vaccinated at the same doctor;
- Efficacy – the correct vaccination procedure applied;
- Patient oriented
- Safety – families that come with their infant must not stay on the same corridor with ill people. Also, the vaccination must be made in a special room.

In Romania, we could say that in more than 90% of cases these principles are being successfully applied. Though, there are still some deductions from parent according to whether or not they should vaccinate their infant.

## **2. The vaccination image in Europe and Romania**

As we have mentioned above, the quality in Romanian healthcare system, which should be also applied to the vaccination step, is related to the following major points:

- Healthcare safety – the vaccination process should be performed in a special room, separate from the same cabinet where ill people enter;
- Attitude staff – the assistants must perform a basic control for the infant (take his weight, length, etc)
- Doctors – generalists should be able to explain the patients the advantages and possible risks of every vaccine.
- Rate of errors – generalists should avoid errors like performing the vaccine in the wrong place or even confusing one vaccine with another one.

Vaccination represents one of the most effective health interventions available in present, being able to save millions of children from illness, disability and death.

In the 21<sup>st</sup> century every child owns the right to live without vaccines, but the actual diseases still represent a risk in Europe, that is why a strong immunization is required.

Before going out on the market, vaccines are well tested in laboratory, then licensed and introduced into national immunization schema (program) of each country.

However, some people are still concerned about the risks that vaccines could have on their children. Indeed, some vaccines might have some minor side effects, and there are also the rare cases in which infants could develop a mild or serious reaction to a certain vaccine. Still, these things are not made due to vaccines and

are often simple coincidences, and, in some cases, are due to human error.

Nowadays, throughout Europe, not only in Romania, there is an open dispute about the fact to whether or not vaccinate the infants from their first days of lives.

About 10 years ago, children's immunization was seen as being something normal, something that must be done and so it was accepted by almost 90% of the population, even if there were some rare cases in which the parents denied the vaccines. Those who denied the immunization were misunderstood by the society and were even thought of putting their child in danger, because of several diseases that may affect him because the vaccine was not made.

In present, the immunization issue, for new born (between 0 and 1 year old) became more and more disputed and parents started to argue about this problem. In USA, for example, the majority of parents start to refuse vaccination because of several cases in which different infants died after a vaccine dose. Also, in USA first started the dispute about vaccination. Here, came out for the first time the information that the vaccine against measles could cause ADHD. Though, this story was not based on double medical studies that could prove this information.

### **2.1 The 3 main countries with the lowest vaccination rates throughout the world**

According to a report conducted by BBC about the growth of global immunization,

they insisted on the fact that almost 1.5 million children continue to die from different diseases that could be easily prevented by vaccines.

In the following paragraphs we will present the main 3 countries that have the lowest vaccination rate:

1. The Central African Republic (non vaccination rate of 49%) – over the past years this country has suffered from violence and insecurity becoming also one of the poorest countries in the world. Because of mass violence and conflicts, this country has denied the access to basic health care for millions of people and thus children are constantly at risk from a disease that can rapidly spread. Nowadays, in Central African Republic, the main cause of death infant is represented by measles, a disease that could be easily prevented with a routine vaccine.
2. Somalia (non vaccination rate of 46%) – this country has also met violent conflicts and wars that banished the health care access for more than half of population. The vaccination rate for measles is only 46%. Although, in present the health care volunteers started to expand the vaccination programs.
3. Nigeria (non vaccination rate 42%) – here, parents refuse to vaccinate their children being afraid of the vaccine's side effects.<sup>61</sup>

### **3. Romania's national vaccination scheme**

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<sup>61</sup> <http://www.bbc.com/news/health-24519949>

According to the order issued by the Health Care Ministry in 2015 about the technical standards for national healthcare programs, in Romania we have the following national vaccination calendar:

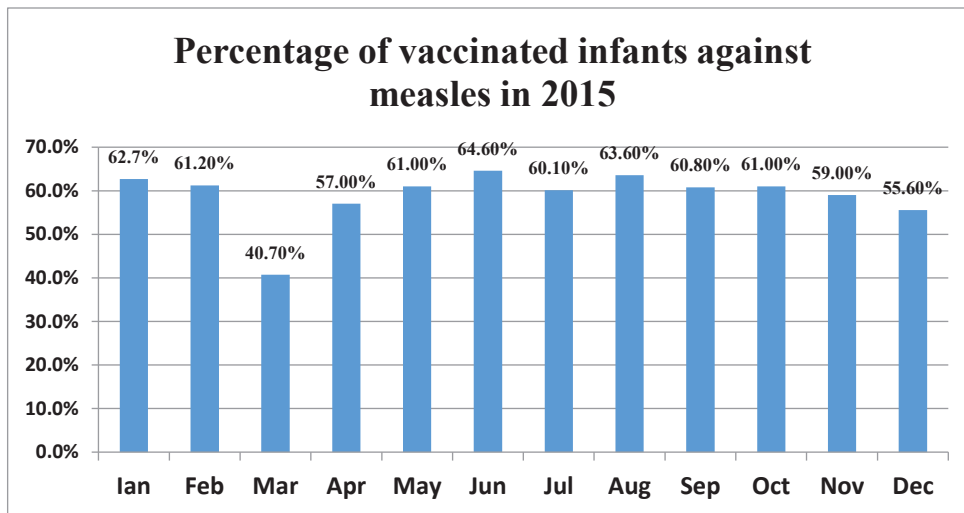
**Table 1: Types of vaccines for infants from 0 to 12 months**

Recommended age	Type of vaccination	Made by:
The first 24 hours	Vaccine hepatitis B ( Hep B )	In maternity
2-7 days	Vaccine Calmette Guerrin (BCG)	
2 months	Vaccine Hemophilic B- hepatitis B ( DTPa-VPI-Hib-Hep B )	Family doctor
4 months	Vaccine polio-Hemophilic B hepatitis B ( DTPa-VPI-Hib-Hep B )	Family doctor
11 months	Vaccine polio-Hemophilic B hepatitis B ( DTPa-VPI-Hib-Hep B )	Family doctor
12 months	Vaccine measles-rubella-mumps ( ROR )	Family doctor

Source: HealthCare Ministry [www.ms.ro](http://www.ms.ro)

The European Union's legislation guarantees the quality, efficacy and the safety of the above mentioned vaccines.

The vaccine is a medicine which is subject to the rigors of profile law. Basically, all vaccines that are available in our country are firstly controlled and only after they meet the necessary requirements, are taken out on the market.



**Figure 1: Percentage of vaccinated infants against measles during 2015**

Source: The annual report regarding the activities conducted at the National Public Healthcare Institute in 2015

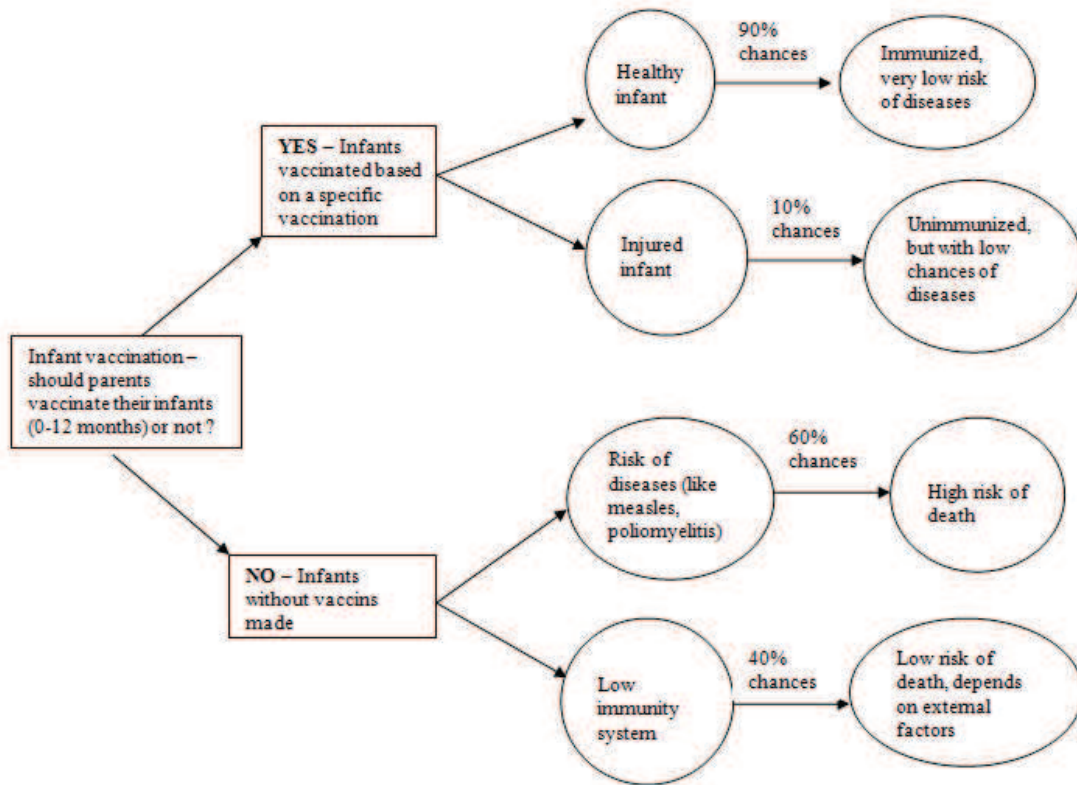
**4. “Decision tree” method applied to a national health issue (should infants be vaccinated or not?)**

Even if the vaccines are capable of preventing numerous diseases that could affect the infant, still the question of whether or not the children should be vaccinated remains a main topic among Romanian families.

Therefore, we have built a Decision Tree (based on a generalist’s help) to present, in a more systematic way, the 2 options.

Every parent has the choice to vaccinate or not his infant. The Decision Tree below shows us what happens in both cases. If the parent chose to vaccinate his infant, than the infant would have 90% chances to be protected from diseases like measles, and also to be immune in front of other diseases, and only 10% chances, case in which the vaccine did not succeed in immunize naturally.

In case the parents choose not to vaccinate their children, then the infant would have 60% chances of illness, and since the most prevalent disease among infants is measles that could lead to poliomyelitis, the infant would present a high risk of death.



**Figure 2: Decision Tree**

Taking into consideration the percentages from the scheme, we could conclude that the decision of whether to vaccinate the infant or not should straighten forward the positive case, more precisely, the decision of acceptance of vaccination.

## 5. CONCLUSION

A sanitary system is qualified as being a qualitative one when the patients' satisfaction and trust are at its highest points.

Most of the Romanian patients vaccinate their children at the generalist (family doctor). There are also, as other options, the kindergarten doctor or any doctor from any private clinic. The only huge difference between these 3 is the fact that the family doctor (the generalist) has the patience to explain, to every patient with infants, the advantages and possible adverse reactions of the each vaccine. In this way, every parent is aware of the possible risk that might happen if the infant is not immunized.

From the information received from a generalist, we found out that the vaccine has the capability to immunize the infant's system in 90% of cases. The rest of 10% is caused simply because the infant's immunity system does not immunize naturally.

Concerning our debate, from a qualitative point of view, the only things that a healthcare system and its staff could offer the patients are a safety environment, an adequate consult, a well prepared generalist that has the ability to explain the meaning of each vaccine and an error rate as low as possible.

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